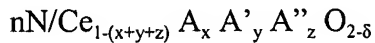


hydrogen comprising:

contacting said gas with a catalyst composition with the formula:



where A, A', A'' are independently selected from the group consisting of: Zr, Gd, La, Sc, Sr, Co, Cr, Fe, Mn, V, Ti, Cu and Ni; N is one or more members of the group consisting of: Pt, Pd, and Au;

n is a weight percent between 0 and 25;

x, y and z are independently 0 to 0.9;

x + y + z is 0.1 to 0.9; and

$\delta$  is a number which renders the composition charge neutral whereby the carbon monoxide in said gas is selectively removed.

- 91 4. (Once amended) A method for selectively removing carbon monoxide from a gas containing hydrogen comprising:

contacting said gas with a catalyst composition with the formula  $nN/(MO_x)_y (CeO_{2-\delta})_{1-y}$ , where

M is one or more members of the group selected from: Zr, Co, Cr, Fe, Mn, V, Ti, Ni and Cu;

N is one or more members of the group selected from: Pt, Pd, and Au;

n is a weight percent between 0 and 25;

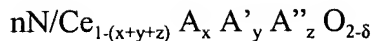
y is 0.1 to 0.9;

and x and  $\delta$  make the compositions charge neutral whereby the carbon monoxide in said gas is selectively removed.

5. (Once amended) A reactor for selectively removing carbon monoxide from a gas which comprises:

a casing having an entrance port, an exit port and a passage therebetween for the movement of said gases from said entrance port to said exit port; and

a catalyst composition with the formula:



where A, A', A'' are independently selected from the group consisting of: Zr, Gd, La, Sc, Sr, Co, Cr, Fe, Mn, V, Ti, Cu and Ni; N is one or more members of the group consisting of: Pt, Pd, and Au;

n is a weight percent between 0 and 25;

x, y and z are independently 0 to 0.9;

x + y + z is 0.1 to 0.9; and

$\delta$  is a number which renders the composition charge neutral in said passage.

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6. (Once amended) A reactor for selectively removing carbon monoxide from a gas which comprises:

a casing having an entrance port, an exit port and a passage therebetween for the movement of said gases from said entrance port to said exit port; and

a catalyst composition with the formula:  $nN/(MO_x)_y (CeO_{2-\delta})_{1-y}$ , where

M is one or more members of the group selected from: Zr, Co, Cr, Fe, Mn, V, Ti, Ni and Cu;

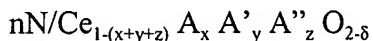
N is one or more members of the group selected from: Pt, Pd, and Au;

n is a weight percent between 0 and 25;

y is 0.1 to 0.9;

and x and  $\delta$  make the compositions charge neutral in said passage.

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14. (Once amended) A catalyst composition for selectively removing carbon monoxide from a gas containing hydrogen with the formula:



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where A, A', A'' are independently selected from the group consisting of: Zr, Gd, La, Sc, Sr, Co, Cr, Fe, Mn, V, Ti, Cu and Ni; N is one or more members of the group consisting of: Pt, Pd, and Au;

n is a weight percent between 0 and 25;

x, y and z are independently 0 to 0.9;

$x + y + z$  is 0.1 to 0.9; and

$\delta$  is a number which renders the composition charge neutral, wherein said catalyst composition contains one or more members of the group consisting of: copper, manganese and gold.

15. (Once amended) A catalyst composition for selectively removing carbon monoxide from a gas containing hydrogen with the formula  $nN/(MO_x)_y (CeO_{2-\delta})_{1-y}$ , where M is one or more members of the group selected from: Zr, Co, Cr, Fe, Mn, V, Ti, Ni and Cu; N is one or more members of the group selected from: Pt, Pd, and Au; n is a weight percent between 0 and 25; y is 0.1 to 0.9; and x and  $\delta$  make the compositions charge neutral, wherein said catalyst composition contains one or more members of the group consisting of: copper, manganese and gold.
16. (Once amended) The catalyst composition of claim 14 having the formula  $Ce_{0.5}Cu_{0.5}O_w$ , where w is a number that renders the composition charge neutral.
17. (Once amended) The catalyst composition of claim 14 having the formula  $Ce_{0.475}Zr_{0.05}Mn_{0.475}O_w$ , where w is a number that renders the composition charge neutral.
18. (Once amended) The catalyst composition of claim 14 having the formula  $Ce_{0.5}Mn_{0.5}O_w$ , where w is a number that renders the composition charge neutral.
19. (Once amended) The catalyst composition of claim 14 having the formula  $Ce_{0.45}Zr_{0.05}Mn_{0.45}Cu_{0.05}O_w$ , where w is a number that renders the composition charge neutral.
20. (Once amended) The catalyst composition of claim 14 having the formula  $Ce_{0.5}Fe_{0.1}Cu_{0.4}O_w$ , where w is a number that renders the composition charge neutral.

21. (Once amended) The catalyst composition of claim 14 having the formula  $\text{Mn}_{0.5}\text{Fe}_{0.5}\text{O}_w$ , where w is a number that renders the composition change neutral.
22. (Once amended) The catalyst composition of claim 14 having the formula  $\text{Ce}_{0.1}\text{Mn}_{0.45}\text{Cu}_{0.45}\text{O}_w$ , where w is a number that renders the composition change neutral.
23. (Once amended) The catalyst composition of claim 14 having the formula  $\text{Ce}_{0.1}\text{Mn}_{0.45}\text{Fe}_{0.55}\text{O}_w$ , where w is a number that renders the composition change neutral.
24. (Once amended) The catalyst composition of claim 14 having the formula  $\text{Ce}_{0.3}\text{Mn}_{0.7}\text{O}_w$ , where w is a number that renders the composition change neutral.
25. (Once amended) The catalyst composition of claim 14 having the formula  $\text{Ce}_{0.3}\text{Mn}_{0.65}\text{Zr}_{0.05}\text{O}_w$ , where w is a number that renders the composition change neutral.
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